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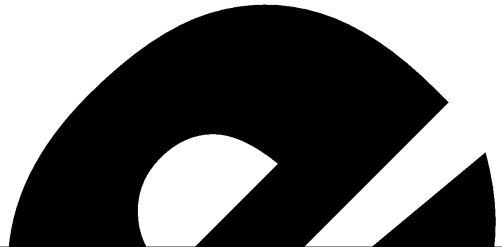

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DIRECTORATE OF
INTELLIGENCE

Intelligence Memorandum

Weather Conditions and Truck Transport in the Laotian Panhandle

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CENTRAL INTELLIGENCE AGENCY
Directorate of Intelligence
August 1968

INTELLIGENCE MEMORANDUM

Weather Conditions and Truck Transport in the Laotian Panhandle

Summary

The influence of weather conditions on traffic levels, as reflected in truck movements this monsoon season, in the Laotian Panhandle has been reduced. This year for the first time, traffic levels have remained markedly high during the monsoon season. The increased capability for delivering supplies to the Communist forces in South Vietnam, was made possible primarily by the improvements in the road net completed during the past dry season.

Truck traffic moving southward through the Mu Gia Pass during the first eight months of 1968 was 80 percent higher than in the comparable period of 1967. Aerial observers have indicated that high levels of truck traffic also entered Laos over Route 137/912 during June and July 1968. The following tabulation is an estimate of the average number of trucks per day moving south through the Mu Gia Pass during the first eight months of 1967 and 1968.

Note: This memorandum was produced by CIA and was coordinated with the Defense Intelligence Agency.

	Average Number of Trucks per Day	
	1967	1968
January	22	25
February	34	41
March	16	37
April	30	52
May	16	17
June	3	19
July	0	15
August	0	11 a/

a. For the period 1-27 August.

Besides moving substantial amounts of supplies into Laos during the monsoon months of June and July, it has been easier than in previous years for the enemy to continue the southward movement of supplies, primarily because of the extensive new road construction and improvements to the road system during the recent dry season. The continued maintenance and repair efforts during the current wet season have also been an important factor in retaining this capability. Aerial observers reported that truck sightings throughout the Panhandle during this rainy season were more than 16 times higher than in the same period of 1967. As in the past, however, traffic is still well below the estimated capacity of the road net.

Rainfall in June and July over the entire Laotian Panhandle has not been significantly below the average for these months over a ten-year period. In general, the northern part of the Panhandle and the higher terrain along the Laotian-Vietnamese borders received less than the normal amount of precipitation, while the center and southern portions received nearly normal or above-average precipitation. Much the same pattern prevailed in June and July 1967. By late July 1968, most routes in use in the Panhandle exhibited some cumulative effects of the southwest monsoon, but they remained passable.

Status of Roads in the Northern Panhandle

1. By late July 1968 the roads in the northern Laotian Panhandle had begun to show some effects of the monsoon weather, although total precipitation for the area was below normal for this time of year. Parts of Route 23 south of the Mu Gia Pass were closed, forcing traffic to use short bypass roads (Routes 1201 and 1202), but trucks can still travel as far south as the junction of Route 911 (see the map).* Route 911, south of its junction with Route 23, has had some standing water on the road and ruts on scattered portions, but trouble spots have been bypassed and the road remained open.

2. Farther south, Route 912, which passes through higher elevations near the North Vietnamese border, had dry bomb craters and some dry stream beds on the easternmost segments. Below the junction of Routes 911 and 912, the road net passes through an area which has had near-normal or above-normal rainfall this year. The key road segments through this area, Routes 91 and 911 and their bypasses, were still in fair condition in late July and were open to through truck traffic as far south as Route 9 despite the heavy rainfall.

3. The rainy weather along the Route 9 axis has not caused serious deterioration of the key road segments in this region. Although this was an area of above-average rainfall in June and July, most of Route 9, particularly those parts east of Muong Phine to the South Vietnamese border, was in good condition. These segments were reportedly sustaining moderate to heavy traffic during both months.

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* *The remaining portions of Route 23 play no significant role in logistical resupply efforts during the rainy season, although they do serve as an alternate route as far as Route 9 during the dry season.*

Route 914 had near-normal precipitation on segments near Tchepone, and standing water was observed on the road in late July. To the southeast toward Route 92 the road was in good condition, and there were dry streambeds nearby. Despite this variation in rainfall roadwatch teams reported regular and sustained traffic over the entire length of Route 914.

4. The road to the A Shau Valley, Route 922, was in fair to good condition as late as 23 July and was probably sustaining moderate to heavy amounts of traffic. This road lies in an area with less than normal precipitation for the months of June and July. Standing water and vehicular ruts in the western segments of the road did not appear to impede traffic. In the higher elevations near the South Vietnamese border, the enemy had corduroyed sections of the road, some of which had been heavily bombed or had deteriorated as a result of localized rains. Parts of this road had previously been corduroyed or surfaced with gravel in anticipation of the heavy monsoon rains.

Status of Roads in the Southern Panhandle

5. The main north-south road from Route 922 to the tri-border runs through a region of average and above-average precipitation. Route 92 north of Ban Bac shows deep ruts and some standing water on the road. Only light traffic has been reported for this segment. From Ban Bac to Chavane the road enters an area of slightly higher terrain that has had an average seasonal rainfall. The roads in this area were open in July, with only a minimal amount of standing water on the road.

6. The Route 165/966 road complex connecting the Chavane area to the South Vietnamese border was open in late July and reportedly was carrying a moderate volume of traffic. This was an area of near-average rainfall, and the east-west road net was in fair condition with deep ruts and some standing water. South

of Chavane, the primary north-south road was displaying some effects of the near-normal seasonal rainfall. The level of traffic on this stretch remained low during June and July.

7. Route 110 across southern Laos to the tri-border area experienced the above-average heavy rains associated with the Bolovens Plateau region. Parts of this route have standing water and deep vehicle ruts. Most of the traffic on Route 110 in June and July consisted of bicycles and small carts. Short sections in the tri-border area have been corduroyed to alleviate the effects of the heavy precipitation, but the enemy has not attempted to move substantial numbers of vehicles into the tri-border salient via either Route 96 or Route 110. Moreover, there is evidence that the enemy had ceased attempts to maintain the eastern portions of Route 110 during the rainy season.

Truck Sightings in the Laotian Panhandle

8. Aerial observers have reported significantly higher numbers of trucks moving throughout the Laotian Panhandle during 1968. Although the total number of aircraft sorties flown over this region during June and July 1968 was more than twice as high as in the comparable period of 1967 -- up from 1,980 to 4,690 -- truck sightings increased by 16 times, from 348 to 5,954. Increased truck sightings may to some extent be the result of the use of more sophisticated detection equipment, but they are indicative, nevertheless, of the general order of magnitude of traffic activity in 1968 as compared with 1967. This high range of sightings in 1968 indicates that the enemy has not withdrawn large numbers of personnel and equipment from the Panhandle as in previous rainy seasons. Furthermore, this change in the level of activity confirms previous indications and statements in captured documents that the North Vietnamese had planned heavy use of the Laotian roads during the rainy season and, therefore, had prepared the road net for that purpose.

Weather for June-July 1968

9. Rainfall for June over the entire Laotian Panhandle was not significantly below the average

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as determined for a ten-year base period.* Less-than-normal rainfall was reported for the northern sections of the road net, and in general there was less than average precipitation in the higher elevations along the Laotian border. The average precipitation for the center and southern third of the Panhandle was either near normal or slightly above. The town of Attopeu, for example, reportedly received 126 percent of its normal rainfall, and the tri-border area and higher terrain across southern Laos experienced heavier-than-normal precipitation.

10. Preliminary data for July indicate that the trends observed during June have continued. Below-normal rainfall prevailed in the northern portions of the Panhandle, but heavier-than-normal rainfall continued during July over the southern part. These trends are expected to prevail through August as the southwestern monsoon continues to dominate the weather pattern. The intensity of the rains is expected to increase somewhat in the northern Panhandle and to remain at its seasonally high levels in the southern Panhandle.

Weather for June-July 1967

11. The general weather pattern for June and July this year was similar to that of 1967. Although June 1967 was somewhat wetter than June 1968, the northern regions of the Panhandle still received less than the average amount of precipitation. The central and southern portions recorded average or above-average amounts, as in June 1968. Similarly, the weather patterns for July in both 1967 and 1968 were quite analogous. The northern Panhandle and the higher elevations along the Vietnamese-Laotian border received decidedly less precipitation than normal, while the rest of the Panhandle experienced average or above-average amounts.

* *These data are based on reports from US meteorologists,*

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Precipitation at Selected Sites in the Laotian Panhandle June-July 1967 and 1968

Location	Actual Rainfall a/ (Inches) 1967	Actual Rainfall a/ (Inches) 1968	Average Rainfall b/ (Inches)	Percent of Average Rainfall 1967	Percent of Average Rainfall 1968
			June		
Mahaxay	12.3	8.4	16.4	75.0	51.2
Nakhon Phanom c/	12.3	11.8	15.8	77.8	74.7
Seno	14.4	21.3	10.1	142.6	210.9
Muong Phine	9.6	7.7	9.6	100.0	80.2
Attopeu	18.4	17.8	14.1	130.5	126.2
Pakse	16.0	10.0	13.4	119.4	74.6
			July		
Mahaxay	11.5	10.1	31.5	36.5	32.1
Nakhon Phanom c/	11.5	10.2	18.9	60.8	54.0
Seno	12.0	18.1	10.4	115.4	174.0
Muong Phine	12.0	14.6	16.6	72.3	88.0
Attopeu	37.7	36.4	22.0	171.4	165.5
Pakse	29.4	28.4	17.3	169.9	164.2

a. Preliminary data.
b. Based on ten-year period.
c. The weather site at Nakhon Phanom is actually located in Thailand a short distance from the Laotian border.

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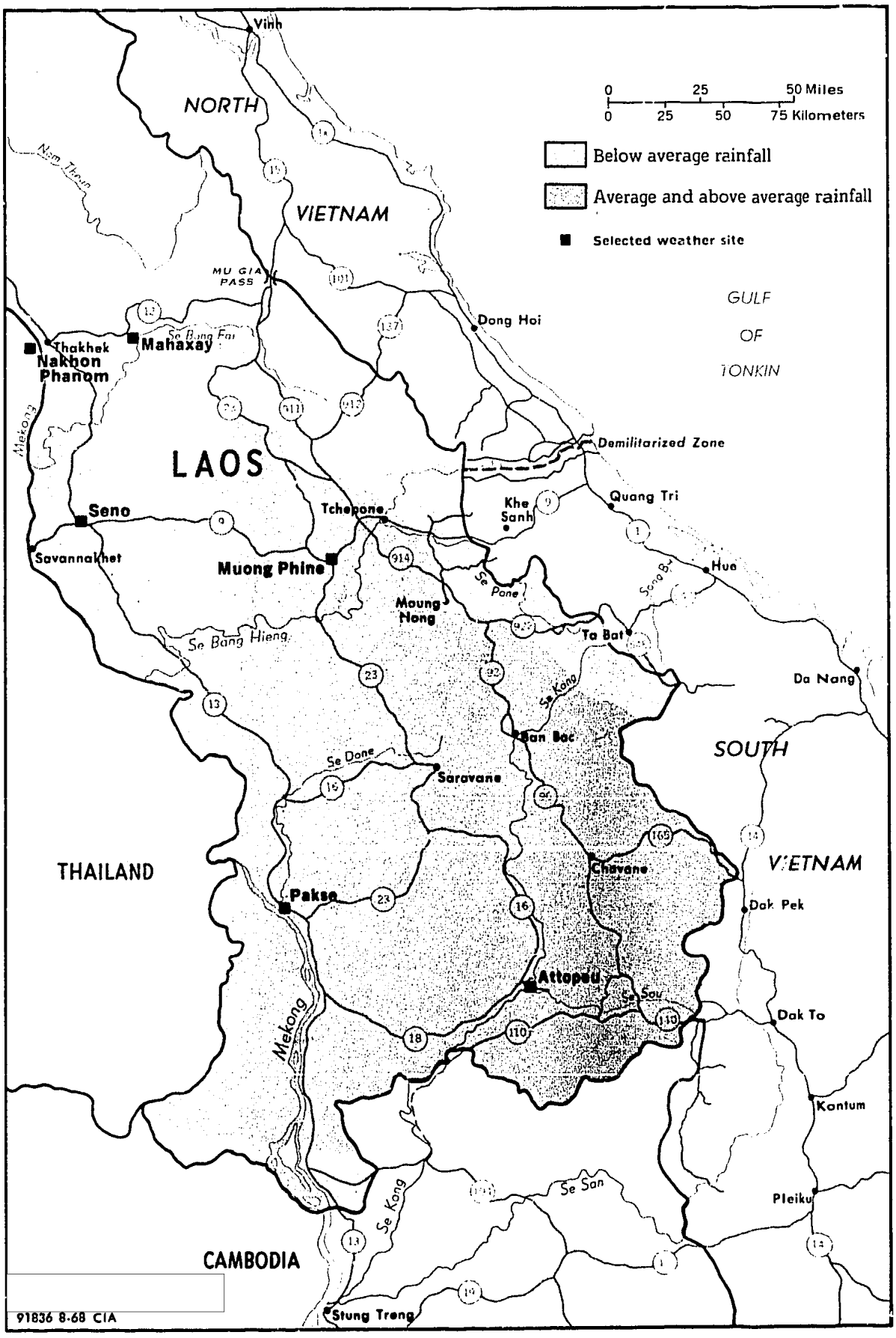
Rainfall Patterns in the Laotian Panhandle, June-July 1968



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